

REMARKS

The Applicant appreciates the courteous and complete examination of the application by the Examiner. In view of the foregoing amendments and/or the following remarks, a reconsideration of the instant application is respectfully requested.

Subsequent to the Examiner's amendments on 7/19/2006, the Applicant respectfully requests that the Examiner reconsiders the rejection of cancelled claims 1, 7, 8, and 34-47 in view of the following arguments, and reinstatement and allowance is solicited.

The Applicant respectfully requests that the Examiner reconsiders his rejections of the invention in view of the well established principle that small differences in a crowded art can constitute patentable improvement. See *In re Baum*, 51 USPQ 470 (CCPA 1941) and *In re Lange*, 126 USPQ 365 (CCPA 1960). In considering this principle, the Applicant would also request that the Examiner take note to the court decision which notes that "apparent simplicity has been held to furnish strong argument for patentability where, as here, a need has existed for a structure of the nature disclosed and claimed. The fact that a solution to a problem is simple, or appears to be simple when viewed in retrospect, does not mean that the solution was obvious when it was conceived." See *Ellipse corp. v. Ford Motor Co.*, 171 USPQ 513.

REMARKS TOWARD CLAIMS REJECTED BY THE KESSEL REFERENCE

The Applicant believes one of the key differences between the claimed present invention and the Kessel invention is that the Kessel invention is only a multi-layered disposable pad which does not have a base of its own, but can be stuck or adhered to pre existing flat round metal platen/disks of an also pre-existing very large polishing machine made specifically for the purposes of polishing ultra thin and fragile semiconductor wafers.

The platen used with the Kessel invention is not and cannot be used by hand, it is not a hand tool, it has no handle, and it is attached to the above-mentioned polishing machine which spins the platen in a circular direction. The platen is bolted to the machine when in use and does not come in contact with the human hand when in use. The Kessel invention, as stated by its claims, is a multi-layered polishing pad for

polishing semi conductor wafers, which is substantially different to the hand held abrasive tool used for sanding as claimed in the present invention.

The present invention by contrast is a moulded shaped hand held tool having a flat underside base for the foam and film layers to be "permanently bonded" thereto. The claimed present invention is a hand tool cannot and is not used with a machine, such as the Kessel invention. The claimed present invention must be hand held, and is generally used in a reciprocal action by moving the tooling in straight lines back and forth to sand a surface, generally for the purpose of preparing such surface for coating with paint or coatings of various types.

It can be appreciated that the Kessel invention is entirely different in construction, function and purpose to the claimed present invention, another key element of the present invention as before mentioned is the way in which the foam and plastic film layers of the claimed present invention are held together. Whereas the Kessel invention is made to be releasably detachable between its various layers, the foam and plastic film layers in the claimed present invention are not releasable and are "permanently bonded" together. The foam layer is "permanently bonded" to the flat planar surface of the moulded hand tool, and cannot be removed without destroying the tool. The plastic film layer of the claimed present invention is "permanently bonded" to the foam layer and cannot be removed from the foam layer without causing total destruction of the entire hand tool.

The Kessel invention is releasable from the flat platen, wherein the foam and film layers of the claimed present invention is not releasable from the hand tool base, and is in fact an integral part of the hand tool base that cannot be separated without causing total destruction of the entire hand tool.

The layers of the Kessel invention are held together using specified 3M and other specified adhesives applied to layers of tissue-thin film, wherein these layers as said are mostly releasable from each other. The foam layer of the claimed present invention does not use such plastic carrier film layers as the disclosed in the Kessel reference, but the adhesive that bonds the foam layer permanently to the flat planar under surface of the moulded hand tool is applied directly to the foam surface that affixes the foam to the underside of the moulded hand held and operated sanding tool of the claimed

present invention. The plastic film layer of the present invention is permanently heat bonded to the foam layer as previously mentioned by bringing together the extruded plastic film layer onto the foam layer while the extruded plastic film layer is in an almost molten state during the extrusion process so that the foam layer and plastic film layer do not require adhesive to bond together, but actually fuse, melt, and physically heat bond together to become as one so as to prevent delamination of the layers which occurs when bonding is done using pressure sensitive adhesive on to a carrier film, as used in the Kessel Invention. This is why the Kessel invention uses double-sided pressure sensitive coated carrier film layers, so that the Kessel invention can be separated at its various layers.

The Applicant believes that patentable key differences between the Kessel or other sanding inventions, and the present invention is what is desired to be sought after with the present application. That key difference is the fact that the present invention relates entirely to a hand held and hand operated sanding tool. It can only be used in this way. Whereas the Kessel invention is not a hand held and hand operated tool, it is not in fact a tool, but is a consumable multi-layered pad which is disposed of when worn out and replaced by another such pad. The Kessel invention cannot be used by hand, it is not used by hand, it is not a hand tool, and cannot be used with or as part of a hand operated tool, but it is used as stated on a flat pre-existing round metal platen.

The Applicant respectfully requests that claims 1-47 be allowed and reinstated, based on these considerable differences between the claimed present invention and the Kessel invention. Furthermore, the other fundamental difference of patentable distinction, as demonstrated above, is the way the layers of the present invention are connected to each other, as opposed to the way the layers of the Kessel invention are held together, and it is this very clear and obvious difference the Applicant desires to be patented.

Amended claim 1 includes limitations not disclosed or taught by the Kessel reference. An integral part of amended claim 1 is the permanent attachment or bonding of the foam layer to the base portion, and the plastic layer to the foam layer. This permanent bonding of the foam and plastic layers at the point of manufacture essentially produces a complete and single component or unit. One would destroy the

layers if they tried to remove or detach them. This permanent bonding is different than that disclosed in the Kessel reference which glues the layers together. Additionally, the foam and plastic bonded layers are permanently bonding to the base layer, thereby making a single and complete unit. As mentioned above, the present invention would be destroyed or rendered unusable if the layers were to be removed from the base portion.

The adhesively backed sandpaper layer is not part of the present invention, but merely used with it, whereby the sandpaper is removably fixed to the plastic layer. The Kessel reference discloses a polishing pad that is substantially different than an adhesively backed sandpaper layer used in conjunction with the present invention in amended claim 1. The sandpaper is made from a layer of fabric or paper backing having resin glue applied to the grit side of the backing paper, whereby grit or aggregate is sprinkled or electrostatically attached to the backing paper. The grit is laid onto the backing paper in a single continuous layer, having gaps between the individual pieces of grit to allow dust from the material being sanded to pass between the grits and fall away from the grit surface of the sandpaper to prevent the sandpaper clogging. This is in comparison to the top polishing layers of the Kessel invention in the Kessel Figs. 1-6. The removable top polishing layers as shown in layer (31) in Figs. 1 and 2 of the Kessel reference, layer (41) in Fig 4 of the Kessel reference, layer (104) in Fig 5 of the Kessel reference, and layer (204) in Fig 5 of the Kessel reference. These top polishing layers in the Kessel invention are constructed of a base layer material such as foam etc, having a permanently bonded layer of aggregate held together by a binding slurry or agent. The polishing layer of the Kessel reference is not a single layer like sandpaper which has well spaced coarse grit particles held in place on a paper or cloth backing for with a purpose of scouring and scratching a surface to provide a scratched surface that coatings can stick and adhere to. The Kessel polishing layer is in fact a mass of ultra fine polishing aggregate stacked up either in precise and evenly shaped tall tooth like structures, shown as (32) in Fig. 1, (42) in Fig. 2, (105) in Fig. 5, and (205) in Fig. 6, or in a continuous stacked up mass of ultra-fine polishing aggregate as shown as (32) in Fig. 2. The purpose of the stacked up ultra fine polishing aggregate is to provide polishers of semiconductor wafers with a long lasting polishing surface pad, so that as

the surface aggregate wears away, it exposes the polishing aggregate below until at last all the polishing aggregate is worn away, and at that time, the old worn out polishing pad layer is removed from the sub layer(s), and a new top polishing layer is stuck or attached to the sub layer(s).

It can therefore be appreciated that one skilled in the art would not substitute the polishing pad for an adhesively backed sandpaper, or use the combined permanently fixed base layer, foam layer, and plastic layer in combination with the sandpaper.

Hence, the claimed present invention is adapted to be used with a layer of adhesively backed sandpaper, which is substantially different than the abrasive material used in, and part of, the Kessel reference. The sandpaper having a single layer of grit bonded with suitable gapping between the grits to allow dust and worn particles from the surface being sanded to fall away from the sandpaper and prevent clogging of the sandpaper. When the single grit layer is worn which occurs very quickly, it is removed and replaced with new sandpaper.

It has been proven above that the top polishing layer of aggregate and binder on a base layer in the Kessel reference is an integral component, is part of the Kessel invention, that the ultra-fine polishing aggregate is permanently bonded to the polishing base layer and the aggregate is stacked high and held together by a slurry type binding agent creating an thick high mass of polishing aggregate held together to produce a long lasting polishing pad. This polishing pad is substantially different to adhesively backed sandpaper, and is for polishing, not sanding and roughing as sandpaper is. Construction of the Kessel polishing pad is entirely different, and the materials used to create and produce sandpaper and this Kessel polishing pad are entirely different in construction from each other. The fact is, a semiconductor wafer is very small, very thin, ultra fragile, and almost microscopic in finished form and often around the size of a small human freckle. The aggregate used on the Kessel polishing pads is made from microscopic particles of diamond like dust and is so fine it must be viewed with a powerful microscope. Semiconductor wafer are ultra thin, fragile silicon sheets that if contacted anything other than microscopic aggregate particles would destruct immediately. As stated, the Kessel polishing pad is for polishing to an ultra smooth surface, whereas sandpaper is for roughening up surfaces and an entirely different

function, and made in an entirely different way to each other. The massed and bound polishing aggregate in the Kessel reference is bound and held together much in the same manner as a grinding stone is created with ultra fine particles bound together to form a thick long lasting consumable polishing wheel, block, or device. The difference between the grinding stone, wheel, or device and the Kessel polishing device is that the massed aggregate of the Kessel invention is massed and permanently bonded onto a sub-layer that can have adhesive applied to it to allow it to stick to the pad layers beneath, and that the binder holding the microscopic aggregate particles together would need to be a more gentle and infinitely smoother binding agent than used in a grinding wheels or grinding polishing stones.

Additionally, the present invention of amended claim 1 is not for use with large heavy permanently mounted stationary machinery and platens, polishing pads and semiconductor wafer, but is a portable, hand held, lightweight, moulded tool having a permanently bonded, non removable layer of foam an film layer are bonded laminated together and made one, not by glue or adhesive, but by bringing these two component materials together at great heat, while in a semi molten state to make the two materials physically bond together and become as one. The sandpaper that attaches to the present invention is not part of the present invention as the polishing pad is an integral part of the Kessel invention. The Kessel polishing pad surface is unique to the Kessel invention and the Kessel polishing pad is in no way similar to sandpaper.

The Kessel invention is not a tool, but is a multi-layered polishing pad, as stated through out the Kessel specification and claims. It has no solid base or construction that is an integral part of the tool as compared to the present invention which has a solid moulded base with permanently bonded foam and film layers. The base or platen of the Kessel invention attaches to a pre-existed unit, which is not or a part of the Kessel invention. It is believed that the Kessel invention is merely a disposable multi layered pad element that attaches to a pre-existing polishing machine and pad. It is also believed that the Kessel invention is only used for polishing smooth, not sanding to roughen, the fragile surface of a silicon semiconductor wafer, and has no other use or purpose outside of this function because polishing semiconductor wafers is highly

specialized. This use is not related to polishing of other materials or functions due to the fragile nature of small size of the silicon semiconductor.

Most importantly, the base pad of the Kessel invention, that the top polishing pad of the Kessel invention adheres to, is multi layered using pressure sensitive adhesive and whereby the various layers are made to be releasably attachable and detachable from each other to create a pad to the desired height required, whereas the foam layer of the claimed present invention is permanently adhered to the solid construction base portion, and the plastic layer is permanently bonded to the foam layer, which is not releasable, not detachable, and would render the tool broken and unusable if the foam/film layer was damaged or removed from the tool.

REMARKS TOWARD CLAIMS REJECTED BY THE RAWLEY REFERENCE

The Applicant would like to call the Examiner's attention to the following point.

The Examiner states in paragraph 17 of the office action dated 03/02/2006 that the Rawley reference discloses "a screw member (22) passing through a respective end of the handle portion (20) and received within a socket (portion 20 of the handle comprises a socket that receives the screw member) pivotably connected to a respective end of the flexible portion." The Examiner may be in error in the understanding of the Rawley reference, in that according to Fig.'s 1-3 in the Rawley reference it can clearly be seen that the screw member (22) does not pass through the handle portion (20), but instead is threaded into the handle portion (20) thereby making the handle portion (20) into a "turn-buckle". Hence the handle portion "turn-buckle" (20) in the Rawley reference rotates.

Claim 34 of the present application is substantially different in structure to Rawley reference in that it claims "at least one adjustment means passing through an end of said handle portion" and "a flexible base portion removably attachable to said handle portion about a central pivot line". Consequently, the claimed handle portion cannot rotate since it is attachable to the flexible base portion, and since the adjustment means passes through an end of the handle portion. The handle portion in claim 34 is not a rotating turnbuckle as disclosed in the Rawley reference.

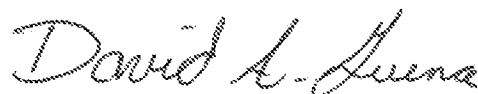
Additionally, the socket (portion 20) in the Rawley reference is part of the handle portion (20), as admitted by the Examiner. The claimed invention in the present application has the "socket pivotably connected to said respective end of said flexible base portion". Hence the socket is not part of the handle portion (20), as disclosed in the Rawley reference, instead it is pivotably connected as a separate and independent element to the end of the flexible base portion.

Furthermore, the Examiner states in paragraph 18 of the office action "that each socket is pivotable (via, the screw member, as discussed supra) about a rod (24) fixed within an end (14) of the flexible base portion". Again, the Examiner may be in error in using this specific reference in that the rod (24) is not "fixed within an end (14)". The rod (24), as disclosed in the Rawley reference, is in fact a "transverse pin 24 mounted on the legs 14 of the end brackets 12 adjacent the upper ends thereof." Therefore the rod (24) in the Rawley reference is not fixed within the end of the flexible base portion, as claimed in the present application. This can more easily be seen in Fig.'s 1-3 of the Rawley reference.

In this regard, the Applicant would point out that there is no teaching in the Rawley and Kessel references or that it would have been obvious to one skilled in the art to use the claimed structure combination in claims 34, 48, and 58 of the present application. The Applicant's claimed invention is now believed to be patentably distinct to the references relied upon by the Examiner.

With the above amendments being fully responsive to all outstanding rejections and formal requirements, it is respectfully submitted that the claims are now in condition for allowance, and a notice to that effect is earnestly solicited. Should the Examiner feel that there are further issues which might be resolved by means of telephone interview, the Examiner is cordially invited to telephone the undersigned at (403) 444-5695, or by email at davidguerra@verizon.net.

Respectfully Submitted,

A handwritten signature in cursive script that reads "David A. Guerra".

David A. Guerra, Reg. 46,443

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On (Date) September 29, 2006 by David A. Guerra 